

6560-50-P

#### ENVIRONMENTAL PROTECTION AGENCY

#### **40 CFR Part 52**

[EPA-R04-OAR-2016-0462; FRL-9965-68-Region 4]

Air Plan Approval; Kentucky; Regional Haze Progress Report

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve a State Implementation Plan (SIP) revision submitted by the Commonwealth of Kentucky through the Kentucky Energy and Environment Cabinet, Division of Air Quality (KDAQ) on September 17, 2014. Kentucky's September 17, 2014, SIP revision (Progress Report) addresses requirements of the Clean Air Act (CAA or Act) and EPA's rules that require each state to submit periodic reports describing progress towards reasonable progress goals (RPGs) established for regional haze and a determination of the adequacy of the state's existing SIP addressing regional haze (regional haze plan). EPA is proposing to approve Kentucky's determination that the Commonwealth's regional haze plan is adequate to meet these RPGs for the first implementation period covering through 2018 and requires no substantive revision at this time.

**DATE:** Comments must be received on or before [insert date 30 days from the date of publication in the <u>Federal Register</u>].

**ADDRESSES:** Submit your comments, identified by Docket ID No. EPA-R04-OAR-2016-0462 at <a href="http://www.regulations.gov">http://www.regulations.gov</a>. Follow the online instructions for submitting comments.

Once submitted, comments cannot be edited or removed from Regulations.gov. EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud, or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit http://www2.epa.gov/dockets/commenting-epa-dockets. FOR FURTHER INFORMATION CONTACT: Michele Notarianni, Air Regulatory Management Section, Air Planning and Implementation Branch, Air, Pesticides and Toxics Management Division, U.S. Environmental Protection Agency, Region 4, 61 Forsyth Street, SW, Atlanta, Georgia 30303-8960. Ms. Notarianni can be reached by phone at (404) 562-9031 and via electronic mail at notarianni.michele@epa.gov.

#### **SUPPLEMENTARY INFORMATION:**

### I. Background

States are required to submit a progress report in the form of a SIP revision that evaluates

progress towards the RPGs for each mandatory Class I federal area<sup>1</sup> (Class I area) within the state and for each Class I area outside the state which may be affected by emissions from within the state. 40 CFR 51.308(g). In addition, the provisions of 40 CFR 51.308(h) require states to submit, at the same time as the 40 CFR 51.308(g) progress report, a determination of the adequacy of the state's existing regional haze plan. The progress report is due five years after submittal of the initial regional haze plan. Kentucky submitted its regional haze plan on June 25, 2008, as later amended in a SIP revision submitted on May 28, 2010.<sup>2</sup>

Like many other states subject to the Clean Air Interstate Rule (CAIR), Kentucky relied on CAIR in its regional haze plan to meet certain requirements of EPA's Regional Haze Rule, including best available retrofit technology (BART) requirements for emissions of sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NOx) from certain electric generating units (EGUs) in the Commonwealth.<sup>3</sup> This reliance was consistent with EPA's regulations at the time that Kentucky developed its regional haze plan. *See* 70 FR 39104 (July 6, 2005). However, in 2008, the United States Court of Appeals for the District of Columbia Circuit (D.C. Circuit) remanded CAIR to EPA without vacatur to preserve the environmental benefits provided by CAIR. *North Carolina* v. *EPA*, 550 F.3d 1176, 1178 (D.C. Cir. 2008). On August 8, 2011 (76 FR 48208), acting on the

<sup>&</sup>lt;sup>1</sup> Areas designated as mandatory Class I federal areas consist of national parks exceeding 6000 acres, wilderness areas and national memorial parks exceeding 5000 acres, and all international parks that were in existence on August 7, 1977 (42 U.S.C. 7472(a)). Listed at 40 CFR Part 81 Subpart D.

<sup>&</sup>lt;sup>2</sup> Throughout this document, references to Kentucky's "regional haze plan" refer to Kentucky's original June 25, 2008, regional haze SIP submittal, as later amended in a SIP revision submitted on May 28, 2010.

<sup>&</sup>lt;sup>3</sup> CAIR required certain states, including Kentucky, to reduce emissions of SO<sub>2</sub> and NO<sub>x</sub> that significantly contribute to downwind nonattainment of the 1997 National Ambient Air Quality Standard (NAAQS) for fine particulate matter (PM<sub>2.5</sub>) and ozone. *See* 70 FR 25162 (May 12, 2005).

D.C. Circuit's remand, EPA promulgated the Cross-State Air Pollution Rule (CSAPR) to replace CAIR and issued Federal Implementation Plans (FIPs) to implement the rule in CSAPR-subject states.<sup>4</sup> Implementation of CSAPR was scheduled to begin on January 1, 2012, when CSAPR would have superseded the CAIR program. However, numerous parties filed petitions for review of CSAPR, and at the end of 2011, the D.C. Circuit issued an order staying CSAPR pending resolution of the petitions and directing EPA to continue to administer CAIR. Order of December 30, 2011, in *EME Homer City Generation, L.P. v. EPA*, D.C. Cir. No. 11-1302.

On March 30, 2012, EPA finalized a limited approval of Kentucky's regional haze plan as meeting some of the applicable regional haze requirements as set forth in sections 169A and 169B of the CAA and in 40 CFR 51.300-308. Also in this March 30, 2012, action, EPA finalized a limited disapproval of Kentucky's regional haze plan because of deficiencies arising from the Commonwealth's reliance on CAIR to satisfy certain regional haze requirements. *See* 77 FR 19098. On June 7, 2012, EPA promulgated FIPs to replace reliance on CAIR with reliance on CSAPR to address deficiencies in CAIR-dependent regional haze plans of several states, including Kentucky's regional haze plan. *See* 77 FR 33642. Following additional litigation and the lifting of the stay, EPA began implementation of CSAPR on January 1, 2015.

On September 17, 2014, Kentucky submitted its Progress Report which, among other things, detailed the progress made in the first period toward implementation of the long term

 $<sup>^4</sup>$  CSAPR requires substantial reductions of SO<sub>2</sub> and NO<sub>x</sub> emissions from EGUs in 28 states in the Eastern United States that significantly contribute to downwind nonattainment of the 1997 PM<sub>2.5</sub> and ozone NAAQS and 2006 PM<sub>2.5</sub> NAAQS.

strategy outlined in the Commonwealth's regional haze plan; the visibility improvement measured at Mammoth Cave National Park (Mammoth Cave), the only Class I area within Kentucky, and at Class I areas outside of the Commonwealth potentially impacted by emissions from Kentucky; and a determination of the adequacy of the Commonwealth's existing regional haze plan. EPA is proposing to approve Kentucky's September 17, 2014, Progress Report for the reasons discussed below.

## II. EPA's Evaluation of Kentucky's Progress Report and Adequacy Determination

## A. Regional Haze Progress Report

This section includes EPA's analysis of Kentucky's Progress Report, and an explanation of the basis for the Agency's proposed approval.

#### 1. Control Measures

In its Progress Report, Kentucky summarizes the status of the emissions reduction measures that were relied upon by Kentucky in its regional haze plan and included in the final iteration of the Visibility Improvement State and Tribal Association of the Southeast (VISTAS) regional haze emissions inventory and RPG modeling used by the Commonwealth in developing its regional haze plan. The measures include, among other things, applicable Federal programs (e.g., mobile source rules, Maximum Achievable Control Technology standards), Federal consent agreements, and Federal control strategies for EGUs. Kentucky also reviewed the status of BART requirements for the five BART-subject sources for particulate matter (PM) in the Commonwealth – American Electric Power (AEP) Big Sandy Plant, E.ON U.S Mill Creek Station, East Kentucky Power Cooperative (EKPC) Cooper Station, EKPC Spurlock Station, and

Tennessee Valley Authority (TVA) Paradise Plant – and described the court decisions addressing CAIR and CSAPR at the time of progress report development.<sup>5</sup>

As discussed above, a number of states, including Kentucky, submitted regional haze SIPs that relied on CAIR to meet certain regional haze requirements. EPA finalized a limited disapproval of Kentucky's regional haze plan due to this reliance and promulgated a FIP to replace the Commonwealth's reliance on CAIR with reliance on CSAPR. Although a number of parties challenged the legality of CSAPR and the D.C. Circuit initially vacated and remanded CSAPR to EPA in *EME Homer City Generation*, L.P. v. EPA, 696 F.3d 7 (D.C. Cir. 2012), the United States Supreme Court reversed the D.C. Circuit's decision on April 29, 2014, and remanded the case to the D.C. Circuit to resolve remaining issues in accordance with the high court's ruling. EPA v. EME Homer City Generation, L.P., 134 S. Ct. 1584 (2014). On remand, the D.C. Circuit affirmed CSAPR in most respects, and CSAPR is now in effect. *EME Homer* City Generation, L.P. v. EPA, 795 F.3d 118 (D.C. Cir. 2015). Kentucky notes in its Progress Report that it has an EPA-approved CAIR SIP and that CAIR was in effect at the time of Progress Report submittal due to the 2011 CSAPR stay. Because CSAPR should result in greater emissions reductions of SO<sub>2</sub> and NOx than CAIR throughout the affected region, EPA expects Kentucky to maintain and continue its progress towards its RPGs for 2018 through

<sup>&</sup>lt;sup>5</sup> Kentucky Progress Report, pp. 33-35.

continued, and additional, SO<sub>2</sub> and NOx reductions. *See generally* 76 FR 48208 (August 8, 2011).

The Commonwealth also discusses in its Progress Report the status of several measures that were not included in the final VISTAS emissions inventory and were not relied upon in the initial regional haze plan to meet RPGs. These measures include EPA's Mercury and Air Toxics Rule, three Federal consent decrees, and planned retirements and fuel switching at several EGUs in Kentucky. The Commonwealth notes that the emissions reductions from these measures will help ensure that Class I areas impacted by Kentucky sources achieve their RPGs.

In its regional haze plan and Progress Report, Kentucky focuses its assessment on SO<sub>2</sub> emissions from EGUs because of VISTAS' findings that ammonium sulfate accounted for 69-87 percent of the visibility-impairing pollution in the VISTAS states and roughly 82 percent of the visibility-impairing pollution at Mammoth Cave National Park on the 20 percent worst visibility days. Although Kentucky determined in its regional haze plan that no additional controls for sources in the Commonwealth were needed to make reasonable progress for SO<sub>2</sub> during the first implementation period, <sup>6</sup> Kentucky's Progress Report identifies the control status of eight out-of-state EGUs, six from Indiana and two from Tennessee, located in the area of influence of Kentucky's Class I area using the Commonwealth's methodology for determining sources eligible for a reasonable progress control determination. Because these eight EGUs were subject to CAIR and Mammoth Cave National Park was projected to exceed the uniform rate of progress during the first implementation period, KDAQ opted not to request from Indiana and Tennessee

<sup>&</sup>lt;sup>6</sup> See 76 FR 78204.

any additional emissions reductions for reasonable progress for the first implementation period.<sup>7</sup> Kentucky's Progress Report indicates that SO<sub>2</sub> emissions from these eight out-of-state EGUs have decreased by nearly 50 percent from 2002 to 2012.

In addition, the Commonwealth provides an update on the control status of EGUs in Kentucky identified by Maine, New Jersey, New Hampshire, and Vermont as contributing to visibility impairment at Class I areas located in those states based on 2002 emissions. These states are members of the Mid-Atlantic/Northeast Visibility Union (MANE-VU), which identified 167 EGU "stacks," 10 of which are in Kentucky, as contributing significantly to visibility impairment at MANE-VU Class I areas in 2002. The 10 EGU stacks are located at: Duke Energy's East Bend plant; EKPC's Cooper and Spurlock plants; AEP Big Sandy plant; E.ON U.S. E.W. Brown, Ghent, and Mill Creek plants; and TVA Paradise. MANE-VU asked Kentucky to control the SO<sub>2</sub> emissions from these EGUs with a 90 percent control efficiency and to adopt a control strategy to provide a 28 percent reduction in SO<sub>2</sub> emissions from non-EGU emission sources that would be equivalent to MANE-VU's proposed low sulfur residential fuel oil strategy.

In its Progress Report, the Commonwealth notes that the Kentucky EGUs identified by MANE-VU either have or will have scrubbers with a minimum SO<sub>2</sub> control efficiency of 90 percent or are scheduled for retirement by 2018. Kentucky also notes that there was a decrease

<sup>&</sup>lt;sup>7</sup> See 76 FR 78213 and Kentucky Progress Report, p. 37.

of 196,753 tons in  $SO_2$  emissions from 2002 to  $2012^8$  at these EGUs and that planned retirements at these EGUs will result in an additional  $SO_2$  emissions decrease of 30,845 tons by 2018 from these units.

EPA proposes to find that Kentucky has adequately addressed the applicable provisions under 40 CFR 51.308(g) regarding the implementation status of control measures because the Commonwealth described the implementation of measures within Kentucky, including BART at BART-subject sources for PM.

#### 2. Emissions Reductions

As discussed above, Kentucky focused its assessment in its regional haze plan and Progress Report on SO<sub>2</sub> emissions from EGUs because of VISTAS' findings that ammonium sulfate is the primary component of visibility-impairing pollution in the VISTAS states. In its Progress Report, Kentucky provides SO<sub>2</sub> emissions data from EPA's Clean Air Markets Division (CAMD) for each coal-fired EGU in the Commonwealth. Actual SO<sub>2</sub> emissions reductions from 2002 to 2012 for these Kentucky EGUs (300,335 tons) have already exceeded the projected SO<sub>2</sub> emissions reductions from 2002 to 2018 estimated in Kentucky's regional haze plan for these EGUs (261,234 tons). Kentucky also includes cumulative SO<sub>2</sub> and NOx CAMD emissions data from 2002-2012 for EGUs in the Commonwealth subject to reporting under the Acid Rain Program. This data shows a decline in these emissions over this time period and shows that the

<sup>&</sup>lt;sup>8</sup> Kentucky Progress Report, Table 15, pp.62-65. The emissions reductions are based on data from EPA's Clean Air Markets Division provided in the Progress Report.

<sup>&</sup>lt;sup>9</sup> Kentucky Progress Report, Table 14, pp. 53-60.

SO<sub>2</sub> reductions are greater than those estimated for these units between 2002-2018 in the Commonwealth's regional haze plan. The emissions reductions identified by Kentucky are due, in part, to the implementation of measures included in the Commonwealth's regional haze plan (e.g., CAIR).

EPA proposes to find that Kentucky has adequately addressed the applicable provisions of 40 CFR 51.308(g) regarding emissions reductions because the Commonwealth identifies SO<sub>2</sub> emissions reductions from EGUs in Kentucky, the largest sources of SO<sub>2</sub> emissions in the Commonwealth.

### 3. Visibility Conditions

The provisions under 40 CFR 51.308(g) require that states with Class I areas within their borders provide information on current visibility conditions and the difference between current visibility conditions and baseline visibility conditions expressed in terms of five-year averages of these annual values.

Kentucky's Progress Report provides figures with visibility monitoring data for Mammoth Cave. Kentucky reported current visibility conditions as both the 2006-2010 and 2009-2013 five-year time periods and used the 2000-2004 baseline period for its Class I area. Table 1, below, shows the visibility conditions for both the 2006-2010 and 2009-2013 five-year time periods and the difference between these current visibility conditions and baseline visibility

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 $<sup>^{10}</sup>$  For the first regional haze plans, "baseline" conditions were represented by the 2000-2004 time period. See 64 FR 35730 (July 1, 1999).

conditions.

Table 1: Baseline Visibility, Current Visibility, and Visibility Changes in Kentucky's Class I Area (deciviews)

Class I Area	Baseline	Current	Difference	More	Difference		
	(2000 - 2004)	(2006-2010)		Current			
				(2009 - 2013)			
		20% Worst	Days				
Mammoth	31.37	29.09	-2.28	25.09	-6.28		
Cave National							
Park							
20% Best Days							
Mammoth	16.51	15.41	-1.10	13.69	-2.82		
Cave National							
Park							

As shown in Table 1, Mammoth Cave saw an improvement in visibility between baseline and the 2006-2010 and 2009-2013 time periods.<sup>11</sup> Kentucky also reported 20 percent worst day and 20 percent best day visibility data for Mammoth Cave from 2006-2013 for each year in terms of five-year averages.<sup>12</sup> This data shows an improvement in visibility at Mammoth Cave on the 20 percent best days from 2006-2013 and on the 20 percent worst days from 2007-2013.

EPA notes that Kentucky's original RPGs were based on the VISTAS modeling run available at the time of Kentucky's June 25, 2008, regional haze plan. In 2008, VISTAS provided updated modeling results that changed the modeled progress for Kentucky's Class I area. Table 2 identifies the RPGs for Mammoth Cave in the Commonwealth's regional haze

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<sup>&</sup>lt;sup>11</sup> Kentucky Progress Report, Tables 17 and 18, pp. 67-68.

<sup>&</sup>lt;sup>12</sup> Kentucky Progress Report, Table 18, p.68.

plan and provides, for comparison purposes only, the updated RPGs provided by VISTAS.<sup>13</sup>

Table 2: Updated RPGs for Kentucky's Class I Area (deciviews)

Class I Area	RPG 20 % Worst Days	RPG 20% Best Days		
Mammoth Cave National Park				
Original RPGs	25.56	15.57		
Updated RPGs	25.40	15.42		

EPA proposes to find that Kentucky has adequately addressed the applicable provisions under 40 CFR 51.308(g) regarding visibility conditions because the Commonwealth provided baseline visibility conditions (2000-2004), current conditions based on the most recently available visibility monitoring data available at the time of Progress Report development, the difference between these current sets of visibility conditions and baseline visibility conditions, and the change in visibility impairment from 2006-2013.

# 4. Emissions Tracking

In its Progress Report, Kentucky presents data from a statewide actual emissions inventory for 2007 and compares this data to the baseline emissions inventory for 2002 (actual and typical emissions).<sup>14</sup> The pollutants inventoried include VOC, NH<sub>3</sub>, NOx, PM<sub>2.5</sub>, coarse

<sup>&</sup>lt;sup>13</sup> Kentucky Progress Report, Table 16, p. 66.

<sup>&</sup>lt;sup>14</sup> For the typical 2002 stationary point source emissions inventory, the EGU emissions are adjusted for a typical year so that if sources were shut down or are operating above or below normal, the emissions are normalized to a typical emissions inventory year. The typical year data is used to develop projected typical future year emissions inventories.

particulate matter (PM<sub>10</sub>), and SO<sub>2</sub>. The emissions inventories include the following source classifications: point, area, fires, non-road mobile, and on-road mobile sources. As discussed in Section II.A.2, above, Kentucky also presented NOx and SO<sub>2</sub> data from 2002-2012 for EGUs in Kentucky.

Kentucky estimated on-road mobile source emissions in the 2007 inventory using EPA's MOVES model. This model tends to estimate higher emissions for NOx and PM than its previous counterpart, EPA's MOBILE6.2 model, used by the Commonwealth to estimate on-road mobile source emissions for the 2002 inventories. Despite the change in methodology, with the exception of a slight increase in PM<sub>2.5</sub> and PM<sub>10</sub>, 2007 actual emissions are lower for all inventoried emissions than both the actual and typical 2002 emissions, as can be seen when comparing Tables 3 and 4 to Table 5.

Table 3: 2002 Actual Emissions Inventory Summary for Kentucky (tpy)

Source	NH <sub>3</sub>	NOx	$PM_{10}$	$PM_{2.5}$	$SO_2$	VOC
Category						
Point	1,000	237,209	21,326	14,173	518,086	46,321
Area	51,135	39,507	233,559	45,453	41,805	95,375
On-Road	5,055	156,417	3,723	2,697	6,308	103,503
Mobile						
Non-	31	104,571	6,425	6,046	14,043	44,805
Road						
Mobile						
Fires	44	1,142	5,226	5,074	49	2,640
TOTAL	57,265	538,846	270,259	73,443	580,291	292,644

Table 4: 2002 Typical Emissions Inventory Summary for Kentucky (tpy)

Source	NH <sub>3</sub>	NOx	$PM_{10}$	PM <sub>2.5</sub>	SO <sub>2</sub>	VOC
Category						
Point	995	240,362	21,421	14,219	529,182	46,315
Area	51,135	39,507	233,559	45,453	41,805	95,375
On-Road	5,055	156,417	3,723	2,697	6,308	103,503

Mobile						
Non-	31	104,517	6,425	6,046	14,043	44,805
Road						
Mobile						
Fires	110	1,460	6,667	6,310	136	3,338
TOTAL	57,326	542,317	271,795	74,725	591,474	293,336

Table 5: 2007 Actual Emissions Inventory Summary for Kentucky (tpy)

Source	NH <sub>3</sub>	NOx	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	VOC
Category						
Point	113	210,213	30,678	21,110	410,413	47,679
Area	52,332	12,693	226,829	40,341	15,590	75,100
On-Road	2,172	133,425	5,524	4,363	1,022	55,883
Mobile						
Non-	46	63,454	4,207	3,969	3,037	38,785
Road						
Mobile						
Fires	138	1,377	5,016	4,678	180	2,939
TOTAL	54,801	421,163	272,254	74,461	430,242	220,386

EPA is proposing to find that Kentucky adequately addressed the provisions of 40 CFR 51.308(g) regarding emissions tracking because the Commonwealth compared the most recent updated emission inventory data available at the time of Progress Report development with the baseline emissions used in the modeling for the regional haze plan. Furthermore, Kentucky evaluated available CAMD SO<sub>2</sub> emissions data from 2002 to 2012 for Kentucky EGUs because this data was available at the time of Progress Report development, ammonium sulfate is the primary component of visibility-impairing pollution in the VISTAS states, and EGUs are the largest source of SO<sub>2</sub> in the Commonwealth.

# 5. Assessment of Changes Impeding Visibility Progress

In its Progress Report, Kentucky documented that sulfates, which are formed from SO<sub>2</sub> emissions, continue to be the biggest single contributor to regional haze for Class I areas in the Commonwealth and therefore focused its analysis on large SO<sub>2</sub> emissions from point sources. In addressing the requirements at 40 CFR 51.308(g)(5), Kentucky demonstrates that sulfate contributions to visibility impairment have decreased overall from 2000 to 2013<sup>15</sup> along with an improvement in visibility, and examines other potential pollutants of concern affecting visibility at Mammoth Cave. The Commonwealth presents data for the 20 percent worst days showing that ammonium sulfate is responsible for 79.6 and 67.8 percent of the regional haze at Mammoth Cave for the periods 2006-2010 and 2009-2013, respectively. For 2006-2010, primary organic matter is the next largest contributor at 9.3 percent whereas for 2009-2013, the next largest contributor to regional haze is ammonium nitrate at 13.9 percent, followed by primary organic matter at 11.7 percent. Furthermore, the Progress Report shows that the Commonwealth is on track to meeting its 2018 RPGs for Mammoth Cave and that SO<sub>2</sub> emissions reductions from 2002-2012 for EGUs in Kentucky have exceeded the projected reductions from 2002-2018 in the regional haze plan.

EPA proposes to find that Kentucky has adequately addressed the provisions of 40 CFR 51.308(g) regarding an assessment of significant changes in anthropogenic emissions. EPA preliminarily agrees with Kentucky's conclusion that there have been no significant changes in emissions of visibility-impairing pollutants which have limited or impeded progress in reducing

<sup>&</sup>lt;sup>15</sup> Kentucky Progress Report, Figures 21 and 22, p. 80.

emissions and improving visibility in Class I areas impacted by the Commonwealth's sources.

## 6. Assessment of Current Strategy

The Commonwealth believes that it is on track to meet the 2018 RPGs for Mammoth Cave and will not impede Class I areas outside of Kentucky from meeting their RPGs based on the trends in visibility and emissions presented in its Progress Report. Kentucky notes that the IMPROVE visibility readings for 2009-2013 already show greater improvements in visibility than projected by Kentucky in establishing the 2018 RPGs for Mammoth Cave and that SO<sub>2</sub> emissions from coal-fired EGUs in the Commonwealth have fallen from 2002 to 2012 by more than than the predicted decline in SO<sub>2</sub> emissions from these sources for the first planning period in Kentucky's regional haze plan. Kentucky expects that these emissions will continue to decrease through the first regional haze implementation period. The Commonwealth identifies additional SO<sub>2</sub> reductions of 49,649 tpy from Kentucky EGUs that are retiring or converting to natural gas which were not accounted for in the original 2018 emissions projections in its regional haze plan. 16 Kentucky also provides data showing that SO<sub>2</sub> emissions from 2002 to 2012 from EGUs outside of the Commonwealth impacting visibility at Mammoth Cave have decreased by nearly 49 percent (65,416 tpy). In addition, the Commonwealth provides emissions data in Table 13 and in Figures 10 and 12 of its Progress Report showing a declining trend in SO<sub>2</sub> and NOx emissions from 2002 to 2012 for EGUs in Kentucky and the VISTAS states.

<sup>&</sup>lt;sup>16</sup> Kentucky Progress Report, Table 11, pp. 42-43.

Kentucky also provides updated visibility analyses for Mammoth Cave and the Class I areas outside the Commonwealth potentially impacted by sources in Kentucky (Great Smoky Mountains National Park in North Carolina and Tennessee, James River Face Wilderness Area and Shenandoah National Park in Virginia, Linville Gorge Wilderness Area in North Carolina, and Dolly Sods Wilderness Area in West Virginia), and notes that these analyses show that these areas are on track to achieve their RPGs by 2018.<sup>17</sup>

As discussed in Section II.A.1, above, CAIR was implemented during the time period evaluated by Kentucky for its Progress Report, but has now been replaced by CSAPR. At the present time, the requirements of CSAPR apply to sources in Kentucky under the terms of a FIP because Kentucky has not, to date, incorporated the CSAPR requirements into its SIP. Kentuky's regional haze plan accordingly does not contain sufficient provisions to ensure that the RPGs of Class I areas in nearby states will be achieved. The term "implementation plan," however, is defined for purposes of the Regional Haze Rule to mean "any [SIP], [FIP], or Tribal Implementation Plan." 40 CFR 51.301. Measures in any issued FIP, as well as those in a state's regional haze SIP, may therefore be considered in assessing the adequacy of the "existing implementation plan."

EPA proposes to find that Kentucky has adequately addressed the provisions of 40 CFR 51.308(g) regarding the strategy assessment. In its Progress Report, Kentucky described the improving visibility trends using data from the IMPROVE network and the downward emissions trends in key pollutants, with a focus on SO<sub>2</sub> emissions from EGUs in the Commonwealth.

<sup>&</sup>lt;sup>17</sup> Kentucky Progress Report, Table 26, p. 87; Figures 23-32, pp. 82-86; Figures 14 and 15, pp. 69-70.

Kentucky determined that its regional haze plan is sufficient to meet the RPGs for its own Class I area and the Class I areas outside the Commonwealth potentially impacted by the emissions from Kentucky. EPA finds that Kentucky's conclusion regarding the sufficiency of its regional haze plan is appropriate because CAIR was in effect in Kentucky through 2014, providing the emission reductions relied upon in Kentucky's regional haze plan through that date. CSAPR is now being implemented, and by 2018, the end of the first regional haze implementation period, CSAPR will reduce emissions of SO<sub>2</sub> and NO<sub>X</sub> from EGUs in Kentucky by the same amount assumed by EPA when it issued the FIP for the Commonwealth in June 2012 replacing reliance on CAIR with reliance on CSAPR. Because CSAPR will ensure the control of SO<sub>2</sub> and NO<sub>X</sub> emissions reductions relied upon by Kentucky and other states in setting their RPGs beginning in January 2015 at least through the remainder of the first implementation period in 2018, EPA is proposing to approve Kentucky's finding that the plan elements and strategies in its implementation plan are sufficient to achieve the RPGs for the Class I area in the Commonwealth and for Class I areas in nearby states potentially impacted by sources in the Commonwealth.

# 7. Review of Current Monitoring Strategy

In its Progress Report, Kentucky summarizes the existing monitoring network in Kentucky to monitor visibility at Mammoth Cave and concludes that no modifications to the existing visibility monitoring strategy are necessary. The primary monitoring network for regional haze, both nationwide and in Kentucky, is the Interagency Monitoring of Protected Visual Environments (IMPROVE) network. There is currently one IMPROVE site located in Mammoth Cave National Park.

The Commonwealth also explains the importance of the IMPROVE monitoring network for tracking visibility trends at the Class I area in Kentucky. Kentucky states that data produced by the IMPROVE monitoring network will be used nearly continuously for preparing the regional haze progress reports and SIP revisions, and thus, the monitoring data from the IMPROVE sites needs to be readily accessible and to be kept up to date. The Visibility Information Exchange Web System website has been maintained by VISTAS and the other Regional Planning Organizations to provide ready access to the IMPROVE data and data analysis tools.

In addition to the IMPROVE measurements, some ongoing long-term limited monitoring supported by Federal Land Managers provides additional insight into progress toward regional haze goals. Kentucky benefits from the data from these measurements, but is not responsible for associated funding decisions to maintain these measurements into the future.

In addition, KDAQ operates a  $PM_{2.5}$  network of filter-based Federal reference method monitors and filter-based speciation monitors. These  $PM_{2.5}$  measurements help the KDAQ characterize air pollution levels in areas across the Commonwealth, and therefore aid in the analysis of visibility improvement in and near Mammoth Cave.

EPA proposes to find that Kentucky has adequately addressed the applicable provisions

of 40 CFR 51.308(g) regarding monitoring strategy because the Commonwealth reviewed its visibility monitoring strategy and determined that no further modifications to the strategy are necessary.

### B. Determination of Adequacy of the Existing Regional Haze Plan

In its Progress Report, Kentucky submitted a negative declaration to EPA regarding the need for additional actions or emissions reductions in Kentucky beyond those already in place and those to be implemented by 2018 according to Kentucky's regional haze plan. Kentucky determined that the existing regional haze plan requires no further substantive revision at this time to achieve the RPGs for Class I areas affected by the Commonwealth's sources. The Commonwealth's negative declaration is based on the findings from the Progress Report, including the findings that: visibility has already improved at Mammoth Cave in Kentucky such that monitored 2009-2013 visibility readings show that the Class I area has already met its RPGs for 2018; actual SO<sub>2</sub> emissions reductions from coal-fired EGUs in Kentucky exceed the predicted reductions in Kentucky's regional haze plan; additional EGU control measures not relied upon in the Commonwealth's regional haze plan have occurred or will occur during the first implementation period that will further reduce SO<sub>2</sub> emissions; and emissions of SO<sub>2</sub> from EGUs in Kentucky and the surrounding VISTAS states are expected to continue to trend downward.

EPA proposes to conclude that Kentucky has adequately addressed 40 CFR 51.308(h) because the visibility trends at Mammoth Cave and at Class I areas outside of the

Commonwealth potentially impacted by sources within Kentucky and the emissions trends of the largest emitters of visibility-impairing pollutants in the Commonwealth indicate that the relevant RPGs will be met.

#### **III.** Proposed Action

EPA is proposing to approve Kentucky's September 17, 2014, Regional Haze Progress Report as meeting the applicable regional haze requirements set forth in 40 CFR 51.308(g) and 51.308(h).

## IV. Statutory and Executive Order Reviews

Under the CAA, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable federal regulations. *See* 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the CAA. Accordingly, this proposed action merely proposes to approve state law as meeting federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

- is not a significant regulatory action subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);
- does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.);
- is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);

- does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Public Law 104-4);
- does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);
- is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);
- is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);
- is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and
- does not provide EPA with the discretionary authority to address, as appropriate,
  disproportionate human health or environmental effects, using practicable and legally
  permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

The SIP is not approved to apply on any Indian reservation land or in any other area where EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, the rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), nor will it impose substantial direct costs on tribal governments or preempt tribal law.

**List of Subjects in 40 CFR Part 52** 

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental

relations, Nitrogen oxides, Particulate matter, Reporting and recordkeeping requirements, Sulfur

dioxide, Volatile organic compounds.

**AUTHORITY:** 42 U.S.C. 7401 et seq.

Dated: July 25, 2017.

V. Anne Heard,

Acting Regional Administrator,

Region 4.

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